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A checklist of the aphyllophoroid fungi (*Basidiomycota*) recorded from the Brazilian Atlantic Forest

Juliano Marcon Baltazar & Tatiana Baptista Gibertoni

baltazarjm@ymail.com, tbgibertoni@hotmail.com

Universidade Federal de Pernambuco, Departamento de Micologia
Av. Nelson Chaves s/n, CEP 50670-420, Recife, Pernambuco, Brazil

Abstract — The Atlantic Forest is one of the most diverse and threatened biomes of the world. A list with 733 species of aphyllophoroid fungi reported from the Brazilian Atlantic Forest is presented based on an intensive search of literature records. These species are distributed in 219 genera and 47 families. *Polyporaceae* is the most highly represented family with 153 species; *Phellinus* is the genus with the highest number of species (42). The complete checklist is available on http://www.mycotaxon.com/resources/weblists.html.

Key words — *Aphyllophorales*, macrofungi, neotropics

Introduction

The Atlantic Forest is a unique series of South American rainforest ecosystems, which also includes other distinct vegetation types, such as mangroves and 'restinga' (Mittermeier et al. 2005). This biome is located along the Atlantic coast of Brazil and inland into parts of Argentine and Paraguay. It once covered an area of approximately 1,300,000 km^2 (Pôrto et al. 2006), and it was present in 17 of the 27 states of Brazil. This rainforest is one of the most diverse regions and one of the most threatened environments of the world, since its area is now home to 67% of the Brazilian population and it is currently reduced to 7.26% of its original size, placing it among the five most important hotspots (Mittermeier 2005, SOS Mata Atlântica/INPE 2008).

Studies on aphyllophoroid fungi in the Atlantic Forest started in the late 19th century with collections made by European naturalists traveling in Brazil (Fidalgo 1962). Many of these specimens were published by European mycologists (Berkeley 1842, Hennings 1902, 1904a,b; Patouillard 1907). Later, two Europeans made important contributions to the knowledge of the group in northeastern (Torrend 1920a,b, 1922, 1926, 1935) and southern Brazil (Rick 1907, 1924, 1959a,b, 1960). Unfortunately there is no reference or accurate data

Figure 1. Brazilian map showing the original domain of the Atlantic forest [modified from Capobianco (2001)]

about the collections' localities in many of these works. The great majority of recent studies on aphyllophoroid fungi in Brazil were carried out in the Atlantic Forest. The most important recent contributions have been made by research groups from the states of Pernambuco, Rio Grande do Sul, São Paulo, and Santa Catarina.

During the VI Latin-American Mycology Congress in 2008, a working group of Latin American researchers focused on the diversity of the aphyllophoroid fungi was created with a commitment to publish checklists on this group of fungi for areas or countries in Latin America. Following this commitment, Brazilian researchers are now providing these checklists (Drechsler-Santos et al. 2008, 2009; Gomes-Silva & Gibertoni 2009).

The aim of this work is to compile data on aphyllophoroid fungi from the Brazilian Atlantic Forest and to present a list of species recorded and their distribution in this biome. Although mangrove forests from the states of Rio Grande do Norte to Santa Catarina are included in the Atlantic Forest biome, their aphyllophoroid fungi were recently listed by Baltazar et al. (2009) and will not be treated in this checklist.

Material and methods

This checklist has been compiled based on an intensive search of literature records of the aphyllophoroid fungi in the Atlantic Forest. Nomenclature and authors names are according to the following online databases: CBS (http://www.cbs.knaw.nl/databases/aphyllo/database.aspx), Index Fungorum (http://www.indexfungorum.org/Names/Names.asp) and the International Plant Names Index (http://www.ipni.org).

Genera and species are listed alphabetically within each family according to Kirk et al. (2008). Synonym is according to the Index Fungorum and CBS databases and exceptional cases are indicated as a comment in the respectively species. Species with taxonomic position not well established are placed in 'incertae sedis'. Taxa with unresolved nomenclature, or not found in the databases, are placed in 'nomina dubia', and those with non neo- or pantropical distributions were excluded. In this checklist, we considered aphyllophoroid fungi as those species traditionally placed in *Aphyllophorales* sensu Donk (1964).

Results

The 733 aphyllophoroid species reported from the Brazilian Atlantic Forest are distributed among 219 genera and 47 families. The most represented family is *Polyporaceae* (153 species), followed by *Hymenochaetaceae* (103) and *Meruliaceae* (78). The genus with the highest number of recorded species is *Phellinus* (42 species), followed by *Hymenochaete* (27) and *Polyporus* (25).

A total of 22 species are considered incertae sedis, while 327 species names distributed in 75 genera are considered nomina dubia. Many of these species belong to synonymized genera and a study of their types is necessary to confirm their identities. Another 144 species distributed among 80 genera were excluded due their non neo- or pantropical distribution.

The Atlantic Forest is the most studied Brazilian biome concerning the aphyllophoroid fungi, i.e. there are more works and species recorded from this biome than from the Brazilian Amazonia (Gomes-Silva & Gibertoni 2009) and the Brazilian semi-arid region (Drechsler-Santos et al. 2009). However, a critical review of specimens is needed to correct misidentifications and nomenclatural problems before it is possible to assert accurately how many species are known from the Atlantic Forest.

The complete checklist is available on http://www.mycotaxon.com/resources/weblists.html.

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Literature cited

Baltazar JM, Trierveiler-Pereira L, Loguercio-Leite C. 2009. A checklist of xylophilous basidiomycetes (*Basidiomycota*) in mangroves. Mycotaxon 107: 221–224.

Berkeley MJ. 1842. Notice of some fungi collected by C. Darwin Esq. in South America and the Islands of the Pacific. Ann. Mag. Nat. Hist. 9(60): 443–448.

Capobianco JPR. 2001. Dossiê Mata Atlântica, 2001. São Paulo, Instituto Socioambiental.

Donk MA. 1964. A conspectus of the families of *Aphyllophorales*. Persoonia 3: 199–324.

Drechsler-Santos ER, Groposo C, Loguercio-Leite C. 2008. Additions to the knowledge of lignocellulolytic *Basidiomycetes* (*Fungi*) in forests from Santa Catarina State, Brazil. Mycotaxon 103: 197–200.

Drechsler-Santos ER, Gibertoni TB, Góes-Neto A., Cavalcanti MAQ. 2009. A re-evaluation of the lignocellulolytic *Agaricomycetes* from the Brazilian semi-arid region. Mycotaxon 108: 241–244.

Fidalgo O. 1962. Rick, o pai da Micologia brasileira. Rickia 3: 1–44.

Gomes-Silva A, Gibertoni TB. 2009. Checklist of the aphyllophoraceous fungi (*Agaricomycetes*) of the Brazilian Amazonia. Mycotaxon 108: 319–322.

Hennings P. 1902. Fungi S. Paulenses II a cl. Puttemans collecti. Hedwigia 41: 295–311.

Hennings P. l904a. Fungi fluminenses a cl. E. Ule collecti. Hedwigia 43: 78–95.

Hennings P. 1904b. Fungi S. Paulenses III a cl. Puttemans collecti. Hedwigia 43: 197–209.

Kirk PM, Cannon PF, Minter DW, Stalpers JA. 2008. Ainsworth and Bisby's dictionary of the fungi. 10th ed. Wallingford, CAB International.

Mittermeier RA, Gil PR, Hoffmann M, Pilgrim J, Brooks T, Mittermeier CG, Lamoreux J, Fonseca GAB. 2005. Hotspots Revisited: Earth's Biologically Richest and Most Endangered Terrestrial Ecoregions. Belo Horizonte, Conservation International – Brazil.

Patouillard N. 1907. *Basidiomycètes* nouveaux du Brésil recueillis par F. Noack. Ann. Mycol. 5(4): 364–366.

Pôrto KC, Almeida-Cortez JS, Tabarelli MT. 2006. Diversidade Biológica e Conservação da Floresta Atlântica ao Norte do Rio São Francisco. Brasília, Ministério do Meio Ambiente.

Rick J. 1907. Contributio ad monographiam *Agaricearum* et *Polyporaceaerum* Brasiliensium. Broteria, Ser. Bot. 6: 65–96.

Rick J. 1924. Contributio ad monographiam Polyporaceaerum riograndensium II. Broteria, Ser. Bot. 21: 5–11.

Rick J. 1959a. *Basidiomycetes* eubasidii in Rio Grande do Sul – Brasilia. 2. *Thelephoraceae.* Iheringia, Bot. 4: 61–124.

Rick J. 1959b. *Basidiomycetes* eubasidii in Rio Grande do Sul – Brasilia. 3. *Hypochnaceae, Clavariaceae, Craterellaceae, Hydnaceae.* Iheringia, Bot. 5: 125–192.

Rick J. 1960. *Basidiomycetes* eubasidii in Rio Grande do Sul – Brasilia. 4. *Meruliaceae, Polyporaceae, Boletaceae.* Iheringia, Bot. 7: 193–295.

SOS Mata Atlântica, Instituto Nacional de Pesquisas Espaciais. 2008. Atlas dos remanescentes florestais da Mata Atlântica, Período 2000 a 2005. <http://www.sosmatatlantica.org.br>.

Torrend C. 1920a. Les Polyporacées du Brésil. Le genre *Ganoderma.* Broteria, Ser. Bot. 18(1): 23–42.

Torrend C. 1920b. Les Polyporacées du Brésil. Polyporacées stipitées. Broteria, Ser. Bot. 18(1): 121–142.

Torrend C. 1922. Les Polyporacées du Brésil. Les genres *Amauroderma* et *Lignosus.* Broteria, Ser. Bot. 18(2): 21–42.

Torrend C. 1926. Les Polyporacées stipitées du Brésil. Brotéria, Ser. Bot. 22(1) : 74–88.

Torrend C. 1935. Les Polyporacées du Brésil. Brotéria, Ser. Bot. 31(3): 108–120.